it could escape, and thus give us a ratio between this compound and genuine mustard. I can at present give only the result of a few experiments, and will not attempt to draw any definite conclusions.

Not until I have been able to make a number of experiments with our new method will I be able to say anything positive as to its merits as a guide in the estimation of this substance. If, however, I find by repeated trials that I can establish a definite ratio, I have here a method that will serve the purposes of the pharmacist admirably.

The pharmacist needs ready methods for quickly arriving at qualitative determinations; he needs easily-managed, practical methods to distinguish the genuine from adulterated articles. This gives rise to the particular kind of manipulations known to the pharmacist as pharmaceutical chemistry. While this process may not satisfy the analyst, it may be superior to other processes for the use of the pharmacist.

The apparatus I have decided upon after a long series of trials, consists of a condenser, graduated receiver, and a small Florence flask of two- or three-ounce capacity to take the place of a retort. The graduated receiver is about two inches in diameter, and contains 20 cc. of $\frac{N}{10}$ solution of silver nitrate, introduced from a burette. To the condenser is attached a tube which will just sit loosely in the receiver and extend to the bottom of the silver solution.

All joints are made air-tight by the use of perforated rubber corks and a moderate heat applied to the solution containing the mustard. Continue distillation till a vacuum is formed in the condenser, now remove the flame and the silver solution will be drawn up into the tube at the mouth of the condenser. Repeat the application and withdrawal of the heat till the volatile oil is all absorbed by the silver solution. A small tube closed by a stop-cock may be placed in the retort, and by blowing through this any vapor still in the condenser may easily be forced out.* Now titrate the silver solution (after noting its exact volume) with $\frac{N}{10}$ sodium chloride. Suppose after distillation our receiver contains 40 cc., or if not, it is very convenient to make it up to that amount with distilled water. Now suppose it required 10.7 cc. of this solution to neutralize 5 cc. of $\frac{N}{10}$ sodium chloride, then by proportion we find the amount of undecomposed silver nitrate. Subtracting this from the 20 cc. with which we started, we find the amount precipitated by the volatile oil:

10.7 : 5 :: 40 : 18.691—$AgNO_3$ unprecipitated.

20 — 18.691 = 1.309 cc.—$AgNO_3$ precipitated.

.016966—$AgNO_3$ in 1 cc. × 1.309 = .0222 gm. silver nitrate precipitated by the volatile oil from .5 gm. of pure mustard.

CORRECTION.

BY N. S. GOSS, TOPEKA.

In my Revised Catalogue of the Birds of Kansas, I described what I then supposed to be the nest and eggs of the Sycamore Warbler—*Dendroica dominica albi lora*. I am now satisfied that the evidence is not reliable upon which the entry is based.

I have met with the birds upon several occasions in the State, during the summer months, on the banks of the Neosho river, and always in or about the large sycamore

*The apparatus and manner of using it were shown to the audience.

trees; but I have never been so fortunate as to find their nest, neither can I find any authentic description of their nest and eggs. They undoubtedly nest in the tree-tops, like the eastern bird—*D. dominica.*

Information in regard to their nesting habits, etc., is very desirable.

SECOND OCCURRENCE OF THE WHITE-FACED GLOSSY IBIS—*PLEGADIS GUARAUNA*—IN KANSAS.

BY N. S. GOSS, TOPEKA.

A young female was captured October 17th, 1890, on the Arkansas river, near Wichita, and kindly sent me for identification by Dr. R. Matthews, of that city. The first specimen was shot in the fall of 1879, at a lake near Lawrence—as reported in my Catalogue of the Birds of Kansas—and is now in the fine collection in Snow Hall, at the State University.

RADIATION OF HEAT FROM FOLIAGE.

BY ALFRED GOLDSBOROUGH MAYER, LAWRENCE.

As the greater portion of the land-surface of the globe is covered with foliage, it becomes of extreme importance in determining the radiation of the earth, to know the radiation from foliage.

In order to determine this, the leaves were fastened to the side of a Leslie cube and exposed at proper intervals, so as to allow them to radiate upon a delicate thermopile.

The radiation of every leaf was compared with that of a similar leaf, lampblacked. The galvanometer used in connection with the thermopile was a Tomson astatic reflecting one. A falling screen was used to expose the thermopile to the radiation from the leaves, and readings of the deflections produced at the end of a half-minute and a minute were taken. In every case the thermopile was allowed to cool until the galvanometer came to 0 before taking another reading. In this way it was found that, if we call the radiation from a surface of lampblack 100, the radiation from various leaves was as follows:

Green poplar leaves	78–80.6
Yellow poplar leaves	71
Fresh brown elm leaves	74.5
Red oak leaves	83.7
Mullein leaves	74.3
Green elm leaves	79
Surface of lampblack	100

It was found that if leaves were cooled down by filling the Leslie cube with cracked ice, the radiation from all kinds of leaves was the same. Thus: lampblacked leaves, brown, green, yellow, or dried leaves, gave exactly the same deflection when cooled down so that a slight film of dew was deposited over their surfaces.

A side of the Leslie cube was cleaned and polished until it radiated only 14.3 per cent. of a lampblacked side, when both were heated to 212° F. When both were cooled, however, and a copious film of dew caused to form upon them by breathing on their surfaces, it was found that the polished surface radiated 96.8 per cent. of the lampblacked one.

By reversing the connections of the thermopile and heating the cube to the boil-